SEQUENCE LISTING

<210> GOSWAMI, USHA
        BERNARDI, GIACOMO
        GOSWAMI, SUBHASH CHANDER
        JOHNSON, ROBERT K.

<120> PROBES FOR MYCTOPHID FISH AND A METHOD FOR DEVELOPING THE SAME

<130> 056859/0117

<140> 09/782,604
<141> 2001-02-14

<160> 45

<170> PatentIn Ver. 2.1

<210> 1
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 1
tgayttgaar aaccaycgtt g   21

<210> 2
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 2
ctccartctt cgryttacaa g   21

<210> 3
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 3
ccatccaaca tctcagcatg atgaaa   26

<210> 4
<211> 20

```
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 4
cctgaagtag gaaccagatg                                          20


<210> 5
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 5
ctacgcctgt ctgagtgtc                                           19


<210> 6
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 6
atatgcttaa attcagcggg                                          20


<210> 7
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 7
tctttccgca gcacaacgtg g                                        21


<210> 8
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 8
catatgaata ccctcagtac tacc                                     24
```

```
<210> 9
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 9
aaactgggat tagatacccc actat                                      25


<210> 10
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 10
agagtgacgg gcggtgtgt                                             19


<210> 11
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 11
cgcctgttta tcaaaaacat                                            20


<210> 12
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 12
ccggtctgaa ctcagatcac gt                                         22


<210> 13
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
```

<400> 13
cccactcact gctaactcc   19

<210> 14
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 14
ggctaactac aatcatctgc t   21

<210> 15
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 15
tacgcataac ggctctgg   18

<210> 16
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 16
ctactacacc tcaactacat ct   22

<210> 17
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 17
gctcgggctg ctggaatctt   20

<210> 18
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 18
caacctcatc tgtcgtaaac   20

<210> 19
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 19
atactctgcg gacatacttg actg   24

<210> 20
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 20
acttgactga ccttcttact   20

<210> 21
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 21
cagtctcgtc aaaccaagtc aaac   24

<210> 22
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 22
ataatcatcc agcataaaca cac   23

<210> 23
<211> 20

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 23
cctggtagag ttcgccgtca   20

<210> 24
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 24
cgtgttcctt atcattgtgc ct   22

<210> 25
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 25
tcgtagttca gcagtcag   18

<210> 26
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 26
caccagccaa gtatgtttct c   21

<210> 27
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 27
gcctccatca tccctcacct tac   23

```
<210> 28
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 28
ctattcgcct cgctcagac                                              19


<210> 29
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 29
ctccgtccgt ctcgcctctg                                             20


<210> 30
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 30
aaatccgccc ttatgtgtgt tc                                          22


<210> 31
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 31
catcggcttg ctctattcct tg                                          22


<210> 32
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
```

```
<400> 32
tctatcggcg gcgtatcac                                         19


<210> 33
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 33
ggcgattcta cggcacgggc g                                      21


<210> 34
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 34
aaactggtcc tcaactatgt ca                                     22


<210> 35
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 35
ccgattcagc cacgattccc tc                                     22


<210> 36
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 36
cctaaagccc agataactac a                                      21


<210> 37
<211> 22
<212> DNA
<213> Artificial Sequence
```

<220>
<223> Description of Artificial Sequence: Primer

<400> 37
cgtgttctga tgatgatgtg ct   22

<210> 38
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 38
attccttcct cttagtatg   19

<210> 39
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 39
gctgaactta ctatgcccta ct   22

<210> 40
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 40
ccgattgacg ccgaactatg   20

<210> 41
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 41
ttgtacacac cgcccgtcgc   20

<210> 42
<211> 747

```
<212> DNA
<213> Unknown Organism

<220>
<223> Description of Unknown Organism: Nucleotide
      sequence of PSL CYTL

<220>
<221> modified_base
<222> (4)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (21)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (24)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (29)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (35)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (50)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (59)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (62)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (65)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (72)
<223> A, T, C, G, other or unknown
```

```
<220>
<221> modified_base
<222> (83)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (85)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (87)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (95)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (102)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (109)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (122)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (144)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (216)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (218)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (220)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
```

```
<222> (226)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (236)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (309)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (327)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (331)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (371)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (387)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (392)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (397)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (409)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (467)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (497)
<223> A, T, C, G, other or unknown
```

```
<220>
<221> modified_base
<222> (507)..(508)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (517)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (523)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (546)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (556)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (591)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (634)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (644)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (646)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (656)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (679)
<223> A, T, C, G, other or unknown
```

```
<220>
<221> modified_base
<222> (689)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (699)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (708)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (717)..(718)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (720)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (728)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (732)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (747)
<223> A, T, C, G, other or unknown
```

```
<400> 42
cttncccatt ttgggcgctt nggcncgctn ctccncgaga ctctgcgtan taatccaant 60
cnctncgggc cnctccctac cantncncta caccncaaat tncaacccng tttcctcatc 120
antcaaccac atctgtcgaa aacntcaact acggctgact aatccgaaaa catgcacgct 180
aacggtgcct ctttcttctt catctgtatt tatctncncn ttggangagg actatnctac 240
ggatcctacc tctacgaaga gacgtgaggt gttggtgtta ttcttctcct tctaataatg 300
atgactgcnt ttgttggcta tgtgctnccc ngaggacaaa tgtccttttg aggtgctact 360
gtcattacaa ncctactctc tgctgtnccg tntgttngcg gcnctctant tcaatgaatt 420
tgaggtggct tctccgtaaa cacgcaacgc tcactcgttt cttcgcnttc cacttcttgt 480
tcccatttgt tgtcgcngct ataaccnngg ttcaccngat ttnccgacat caaacaggct 540
ctaaancccc cccggnttga ctccatacaa caaaaccctc caccctattc nctataaaac 600
tctaggttcg tgcccgtatt ggcttacttc atgnctattt cccngncgga gggacnaaaa 660
ttcctgcacc ccctccccnc aaaataaana atgtgtctnt cctaccanaa aacaacnnan 720
acggggtntg cncttccatc atccacn                                   747
```

```
<210> 43
```

<211> 225
<212> DNA
<213> Unknown Organism

<220>
<223> Description of Unknown Organism: Nucleotide
sequence of PSLITS2F

<220>
<221> modified_base
<222> (17)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (21)..(22)
<223> A, T, C, G, other or unknown

<400> 43
tctacgatct accggcnttt nntgtggaaa gacgatcatg catttatgtg tgtctttcta 60
tggatttgaa ccgtgtggta cgtctttgcg tactgcttgg aaggctcaac ttgcttctgt 120
ccttctcttg cagtctcgca ctgtctatgc aacgtgttct acttcgactt ctgtcgaaaa 180
atcttacttt tgacctcaga tcagacaaga ctacccgctg aattt 225

<210> 44
<211> 750
<212> DNA
<213> Unknown Organism

<220>
<223> Description of Unknown Organism: Nucleotide
sequence of PSL PROL

<220>
<221> modified_base
<222> (10)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (20)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (292)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (424)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base

```
<222> (434)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (498)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (500)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (556)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (562)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (604)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (612)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (621)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (631)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (634)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (643)..(644)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (651)
<223> A, T, C, G, other or unknown
```

```
<220>
<221> modified_base
<222> (656)..(658)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (663)..(664)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (666)
<223> A, T, C, G, other or unknown


<220>
<221> modified_base
<222> (675)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (680-683)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (688)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (695)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (708)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (710)..(711)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (725)..(726)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (732)
<223> A, T, C, G, other or unknown
```

```
<220>
<221> modified_base
<222> (735)..(737)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (750)
<223> A, T, C, G, other or unknown

<400> 44
ccttttcggn ataggcccan ctcaaatgaa ttccttctct cctggtccaa gcccaaactg 60
tggacggcag gttgacaatg gttacaaatc gtgacaaatc ggctacataa ttgccgatag 120
cgatgtcgtc aaaccaagtc aaacaatggc cgatgtatat cggccaaacc catatatggg 180
tctggctgta gtttgtgttg agcaacgtca caccagtgtc tggtcagcat ataagatgtt 240
gacatcttgc aacatcttac ccacagacag acagttacgg ctgcttacga anggcgctag 300
tgttgtggtg agaaacgaag atacatacgt caaacagacg ccggtgcact tgaagacact 360
gtttgaaggt gccgcactac ttgacagaca gcccatgatg cgctggacag tgaccaaagc 420
tacnggagga ccanatggaa atcctgttgg cgttgccgtg ggactcaagt tgtacacttt 480
tggatggttg atcactanan ccgctgccgg gagaagcact cgctcctggt tcactaatca 540
gattgaggtt aaccanattg angtaaacat cttcaacaca gtgtctttat gctggatgaa 600
attnagccca cnggacacca naaaagaatt nccnctggtt ctnncggggg nccccnnnaa 660
cgnntnttcc ccttntctcn nnngcggnga agttnccccc ccccactnan ntcttccttc 720
aananntttc cnccnnnaga ggttttcccn                                  750


<210> 45
<211> 748
<212> DNA
<213> Unknown Organism

<220>
<223> Description of Unknown Organism: Nucleotide
      sequence of ROD PSL SLMB

<220>
<221> modified_base
<222> (43)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (280)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (470)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (483)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
```

```
<222> (486)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (493)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (497)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (503)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (505)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (516)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (520)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (523)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (525)..(526)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (633)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (636)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (639)
<223> A, T, C, G, other or unknown
```

```
<220>
<221> modified_base
<222> (643)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (651)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (656)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (661)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (687)..(688)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (690)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (699)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (714)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (717)
<223> A, T, C, G, other or unknown

<220>
<221> modified_base
<222> (735)
<223> A, T, C, G, other or unknown

<400> 45
cctggtaggg ttccccgtca acttcctcac actgtacctc acnttcgagc acaagaagct 60
actaaccccc ttaaactaca tcctgctcaa cctggcggtc ggagacctcc tgatggtgta 120
aggagggttc accaccacca tctacacctc catgcacggc tacttcgtcc tagggaaact 180
gggctgcgcc atcgaaggtt tcatggccac ccatggtggt caggtcgccc tttggtccct 240
ggtggttttg gccgtggaaa ggtggctggt cgtctgcaan cccatctcca gcttccgctt 300
```

```
ccaggagtcc cactccctca tgggcctggc cgtgacctgg gtgatggcga cggcttgttc 360
tgtgcccccc ctgggtcggc tggtctcgct acatcccaga aggcatgcag tgctcatgcg 420
gaatggacta ctacactccc gcgccgggcg tcaacaatga atcctacgtn gtgtacatgt 480
tcntcanaaa aanaatngga ccncngggcg atcatnttgn tangnnaagg ccagntgntg 540
ngagcagtca aggcggccgc cgccgcccag caagagtccg agaccaccca gagggccgag 600
agggaagtca cccgnatggt natnangatg gtnatntcnt tcntggtaag nagggngcca 660
nacgccagcg tggcctggtg gatcttnngn aaccagggng cagaattagg cccngtnttc 720
atgaccctgc cggcnttctt tgccaaga                                    748
```